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OM of: US-09-494-297-2 to: Issued_Patents_NA:*   out_format : pfs

Date: Jun 6, 2001 11:27 PM

About: Results were produced by the GenCore software, version 4.5,
       Copyright (c) 1993-2000 Compugen Ltd.

Command line parameters:
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Search information block:
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Query length: 757
Database: Issued_Patents_NA:*
Database sequences: 302621
Database length: 87301344
Search time (sec): 76.790000


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seq_name: /cgn1_7/ptodata/1/ina/5B_COMB.seq:US-08-867-941-2

seq_documentation_block:
; Sequence 2, Application US/08867941
; Patent No. 5977337
;  GENERAL INFORMATION:
;    APPLICANT:  Loosmore, Sheena M
;    APPLICANT:  Du, Run-Pan
;    APPLICANT:  Wang, Quijun
;    APPLICANT:  Yang, Yan-Ping
;    APPLICANT:  Klein, Michel H
;    TITLE OF INVENTION:  LACTOFERRIN RECEPTOR GENES OF MORAXELLA
;    NUMBER OF SEQUENCES:  67
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Sim & McBurney
;      STREET:  6th Floor, 330 University Avenue
;      CITY:  Toronto
;      STATE:  Ontario
;      COUNTRY:  Canada
;      ZIP:  M5G 1R7
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/867,941
;      FILING DATE:  03-JUN-1997
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Stewart, Michael I
;      REGISTRATION NUMBER:  24,973
;      REFERENCE/DOCKET NUMBER:  1038-681 MIS:jb
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (416) 595-1155
;      TELEFAX:  (416) 595-1163
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  2694 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-08-867-941-2


alignment_scores:
            Quality:  178.00              Length:    918
              Ratio:  0.467                 Gaps:     42
 Percent Similarity:  41.503   Percent Identity: 18.627

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seq_documentation_block:
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; Patent No. 6184371
;  GENERAL INFORMATION:
;    APPLICANT:  Loosmore, Sheena M
;    APPLICANT:  Run-Pan Du
;    APPLICANT:  Quijun Wang
;    APPLICANT:  Yang, Yan-Ping
;    APPLICANT:  Klein, Michel H
;    TITLE OF INVENTION:  LACTOFERRIN RECEPTOR GENES OF MORAXELLA
;    NUMBER OF SEQUENCES:  78
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Sim & McBurney
;      STREET:  6th Floor, 330 University Avenue
;      CITY:  Toronto
;      STATE:  Ontario
;      COUNTRY:  Canada
;      ZIP:  M5G 1R7
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/074,658
;      FILING DATE:  08-MAY-1998
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Stewart, Michael I
;      REGISTRATION NUMBER:  24,973
;      REFERENCE/DOCKET NUMBER:  1038-795
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (416) 595-1155
;      TELEFAX:  (416) 595-1163
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  2694 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-09-074-658-2


alignment_scores:
           Quality:  178.00            Length:    918
             Ratio:  0.467               Gaps:     42
 Percent Similarity:  41.503   Percent Identity: 18.627

alignment_block:
 US-09-494-297-2 x US-09-074-658-2   ..

 Align seg 1/1  to: US-09-074-658-2  from: 1  to: 2694

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  302 AspTyrSerLysLeuLeuGluGlyAlaThrLeuGlnLeuThrGlyAspAs 318
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  332 ........IleGlyGluArgIleGluLeuSerAspGlyThrTyrThrLeu 345
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  362 eLysValGluAlaGlyLysValTyrThrIleIleAspGlyLysGlnIleG 379
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seq_documentation_block:
; Sequence 1, Application US/08867941
; Patent No. 5977337
;  GENERAL INFORMATION:
;    APPLICANT:  Loosmore, Sheena M
;    APPLICANT:  Du, Run-Pan
;    APPLICANT:  Wang, Quijun
;    APPLICANT:  Yang, Yan-Ping
;    APPLICANT:  Klein, Michel H
;    TITLE OF INVENTION:  LACTOFERRIN RECEPTOR GENES OF MORAXELLA
;    NUMBER OF SEQUENCES:  67
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Sim & McBurney
;      STREET:  6th Floor, 330 University Avenue
;      CITY:  Toronto
;      STATE:  Ontario
;      COUNTRY:  Canada
;      ZIP:  M5G 1R7
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/867,941
;      FILING DATE:  03-JUN-1997
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Stewart, Michael I
;      REGISTRATION NUMBER:  24,973
;      REFERENCE/DOCKET NUMBER:  1038-681 MIS:jb
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (416) 595-1155
;      TELEFAX:  (416) 595-1163
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7650 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-08-867-941-1


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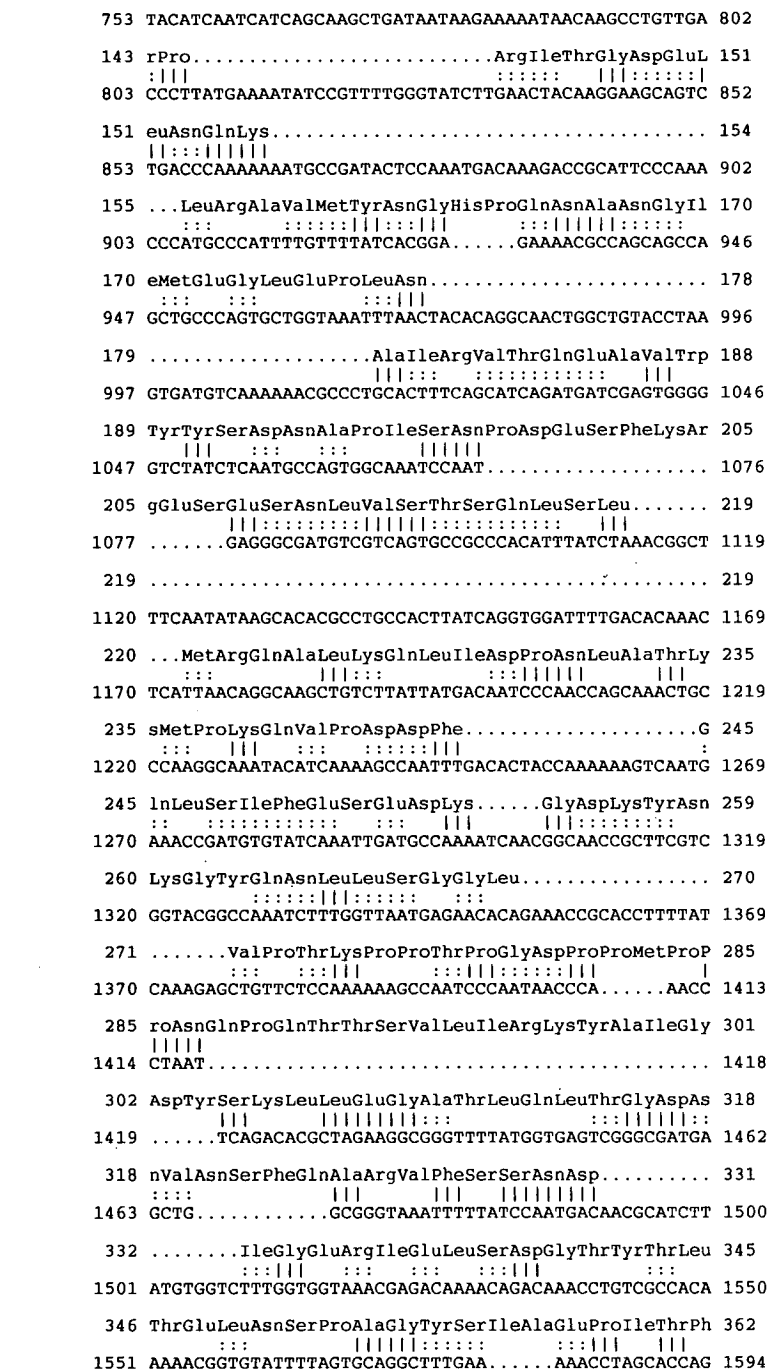
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; Sequence 1, Application US/09074658
; Patent No. 6184371
;  GENERAL INFORMATION:
;    APPLICANT:  Loosmore, Sheena M
;    APPLICANT:  Run-Pan Du
;    APPLICANT:  Quijun Wang
;    APPLICANT:  Yang, Yan-Ping
;    APPLICANT:  Klein, Michel H
;    TITLE OF INVENTION:  LACTOFERRIN RECEPTOR GENES OF MORAXELLA
;    NUMBER OF SEQUENCES:  78
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Sim & McBurney
;      STREET:  6th Floor, 330 University Avenue
;      CITY:  Toronto
;      STATE:  Ontario
;      COUNTRY:  Canada
;      ZIP:  M5G 1R7
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/074,658
;      FILING DATE:  08-MAY-1998
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Stewart, Michael I
;      REGISTRATION NUMBER:  24,973
;      REFERENCE/DOCKET NUMBER:  1038-795
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (416) 595-1155
;      TELEFAX:  (416) 595-1163
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7650 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-09-074-658-1


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            Quality:  178.00              Length:    918
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 Percent Similarity:  41.503   Percent Identity: 18.627

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549 euValGluTyrAlaGlnAspSerAsnProProGlnLeuThrAspLeuAsp 565
2320 CATCTGATGATTCACAAGATGATGACGCAGATGGCGATGACGATTCAGAT 2369
566 PhePheIleProAsnAsnAsnLysTyrGlnSerLeuIleGlyThrGlnTr 582
2370 GATTTG GGTGATGGTGCAGATGACGCCGCCGCAGGCAAAGTGTA 2413
582 pHisProGluAspLeuValAspIleIleArgMetGluAspLysLysGluV 599
2414 TCATGCAGGTAAT ATTCGCCCTGAATTTGAAAACAAAT 2451
599 alIleProVal ThrHisAsnLeuThrLeu 608
2452 ACTTGCCCATTAATGAGCCTACTCATGAAAAAACCTTTGCCCTAGATGGT 2501
609 ArgLysThrValThrGl 614
2502 AAAAATAAAGCTAAGTTTGATGTGGATTTTGACACCAACAGCCTAACTGG 2551
614 yLeuAlaGlyAspArgThrLysAspPheHisPheGluIleGluLeuLysA 631

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      |      :::|||:::      |||:::   |||:::|||      ||||
   2552 TAAATTAAACGATGAGAGAGGTGATATCGTCTTTGATATC......AAAA 2595

    631 snAsnLysGlnGluLeuLeuSerGlnThrValLysThrAspLysThrAsn 647
        ||:::|||   :::      :::   |||:::|||:::|||      |||
   2596 ATGGCAAAATTGATGGCACAGGCTTTACCGCCAAAGCCGATGTGCCAAAC 2645

    648 LeuGluPheLysAspGlyLysAlaThrIleAsnLeuLysHisGlyGluSe 664
          :::   :::  |||          |||   :::   |||
   2646 TATCGTGAAGAAGTGGGT.............AACAACCAAGGTGGC..... 2678

    664 rLeuThrLeuGlnGlyLeuProGluGlyTyrSerTyrLeuValLysGluT 681
                               |||:::   |||   :::|||:::
   2679 .........................GGTTTCTTATACAACATCAAAGATA 2703

    681 hrAspSerGluGlyTyrLysValLysValAsnSerGlnGluValAla... 696
          |||   :::|||           :::|||::::::|||:::|||
   2704 TTGATGTCAAGGGGCAATTTTTTGGCACAAATGGCGAAGAGTTGGCAGGG 2753

    697 ............................AsnAlaThrValSerLysTh 703
                                   |||   |||::::::|||::
   2754 CAGTTACAGTACGACAAAGGCGATGGCATCAATGACACCGCCGAAAAAGC 2803

    703 rGly 704
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seq_name: /cgn1_7/ptodata/1/ina/6B_COMB.seq:US-09-074-658-69

seq_documentation_block:
; Sequence 69, Application US/09074658
; Patent No. 6184371
; GENERAL INFORMATION:
; APPLICANT: Loosmore, Sheena M
; APPLICANT: Run-Pan Du
; APPLICANT: Quijun Wang
; APPLICANT: Yang, Yan-Ping
; APPLICANT: Klein, Michel H
; TITLE OF INVENTION: LACTOFERRIN RECEPTOR GENES OF MORAXELLA
; NUMBER OF SEQUENCES: 78
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Sim & McBurney
; STREET: 6th Floor, 330 University Avenue
; CITY: Toronto
; STATE: Ontario
; COUNTRY: Canada
; ZIP: M5G 1R7
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/074,658
; FILING DATE: 08-MAY-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Stewart, Michael I
; REGISTRATION NUMBER: 24,973
; REFERENCE/DOCKET NUMBER: 1038-795
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (416) 595-1155
; TELEFAX: (416) 595-1163
; INFORMATION FOR SEQ ID NO: 69:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 2718 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
US-09-074-658-69

alignment_scores:

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          Quality:  176.00          Length:    796
            Ratio:  0.515            Gaps:     40
Percent Similarity:  42.965  Percent Identity: 20.603

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 US-09-494-297-2 x US-09-074-658-69   ..

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    493 TATTTTGATAAATTCCCCAAAATATCCGATCTG......CACCTAGAAAA 536

    100 ySerArgSerTyrGlnValTyrCysPheAsnLeuLysLysAla..... 114
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    537 CAGCGAG...........CATGTGTTTGATGCTAAAAAAGCAAATAACA 574

    115 ........PheProLeuGlySerAspSerSerValLysLys..... 125
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    575 TCAAAATATATGGTTATGGTGCATTGTCATCACCTGCCAAAAACCCAACC 624

    126 ......TrpTyrLysLysHisAspGlyIleSerThrLys......PheGl 138
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    625 TACATGAATTATCAACAAGAACAAAACATCAAAAACAAAAAACCAGGCGA 674

    138 uAspTyrAla..................MetSerProArgIleThr.... 147
        :||||||                  |||:::   |||
    675 TGATTATCAAAACATTCGTTTTGGCTATATGGAGCTAAGAGAGCTGGACC 724

    148 ..............GlyAspGluLeuAsnGlnLysLeuArgAlaValMet 159
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    725 TAAATAAAAAAGGTGCAGACACCCAGAGCGACAAGAACCGTGCCATCATT 774

    160 TyrAsnGly..............HisProGlnAsnAlaAsnGlyIleMe 171
        ::::::                |||   :::|||||:::     ::
    775 TTCACCACACCTACTTTATTTTATCATGGTGAGAATGCCAGCACCCATCT 824

    171 tGluGlyLeuGluProLeuAsnAlaIleArgValThrGlnGluAlaValT 188
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    825 GCCA..............AAGGCGGGTAAATTTGACTATGAGGGCAATT 859

    188 rpTyrTyrSerAspAsnAlaPro............IleSerAsnProAsp 200
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    860 GGTTGTATCTGACCGATGTCAAAAAACGCCCATTTTTAGATAAAACAGAC 909

    201 Glu.....................SerPheLysArgGluSerGluSerAs 210
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    910 GATAAAGTAGGCACTTATTTAACTCAACCAGAAAATCAAATGAAGGCGA 959

    210 nLeuValSerThrSerGlnLeuSerLeu..................... 219
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    960 TTTGGTGAGTGCAGCACACATTTATCTAAACAGCTTTAAATATAAACACA 1009

    220 .....................................MetArgGlnAla 223
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   1010 CCCCGGCCACTTATAGCGTGGACTTTGATCAAAATACCCTAAAAGGCAAA 1059

    224 LeuLysGlnLeuIleAspProAsnLeuAlaThrLysMetProLysGlnVa 240
        |||:::         :::||||||      |||         :::   ::
   1060 TTGTCTTATTATGACAACCCAAACAAGCAAACAGCCGATGGGCGTTATAT 1109

    240 lProAspAspPhe.....................GlnLeuSerIlePheG 250
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   1110 CAGAAGTCAGTTTGATACCGACAAAAAGGTCAATGAAGCCGATGTCTATG 1159

    250 luSerGluAspLys......GlyAspLysTyrAsnLysGlyTyrGlnAsn 264
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   1160 AGATTGACGCCAAGATTAATGGCAACCGCTTTACTGGCACAGCCAAATCT 1209

    265 LeuLeuSerGlyGlyLeu.....................ValProTh 273
        |||::::::   :::                       :::   ::
   1210 TTGATTGATGATAACACCAATACCGCACCTTTTGTTAAAGAGCTGTTCTC 1259
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 273 rLysProProThrProGlyAspProProMetProProAsnGlnProGlnT 290
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1260 CAAAAAAGCCAATCCCAACAACCCA......GACCCCAAC.......... 1293

 290 hrThrSerValLeuIleArgLysTyrAlaIleGlyAspTyrSerLysLeu 306
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1294 ........................................TCAGATACG 1302

 307 LeuGluGlyAlaThrLeuGlnLeuThrGlyAspAsnValAsnSerPheGl 323
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1303 CTAGAAGGCGGGTTTTATGGTGAGTCGGGCGATGAGCTG........... 1341

 323 nAlaArgValPheSerSerAsnAspIle.....................G 333
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1342 .GCGGGTAAATTTTTATCCAATGACAACGCAACTTTTGTGGTCTTTGGTG 1390

 333 lyGluArgIleGluLeuSerAspGlyThrTyrThrLeuThrGluLeuAsn 349
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1391 GCAAACGAGACAAAACGACCGAACCTGTCGCCACAAAAACGGTGTATTTT 1440

 350 SerProAlaGlyTyrSerIleAlaGluProIleThrPheLysValGluAl 366
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1441 AGT...ACAGGATTTGAA......AAACCCAGCACCAGCTTTGTTGGCAA 1481

 366 aGlyLysValTyrThrIleIleAspGlyLys............GlnIleG 379
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1482 TGAAGAGATTGGTAGCATTATTGACGGTAAAAAGTTAAATGATGAAGTCA 1531

 379 luAsnProAsnLysGluIleValGluProTyrSerValGluAlaTyrAsn 395
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1532 ATAATCAAATTGAAGATGAAACTGTCCCTGTCAGTAATAAAGAATATTAT 1581

 396 AspPhe............................GluGluPheSerVa 402
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 402 lLeuThrThrGlnAsnTyrAla..................LysPheTyrT 413
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1632 CAGCGTCCAAAAAAACCCTGCTTATTTTGGTCAGCATGATAAGTTTTATT 1681

 413 yr.......................AlaLys......AsnLysAsnGly 419
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 420 SerSerGlnValValTyrCysPheAsnAlaAspLeuLysSerProProAs 436
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1732 GTCTCCCAAGATACCAGCACCAATAAGAGTATTTTGGCTAAATACCCAGA 1781

 436 pSerGluAspGlyGlyLysThrMetThrProAspPheThrThr....... 450
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1820 TTCTACAACAAGCCAAAGATAAGCCGTATACCGCCATTCATGCCAAAAGC 1869

 451 ..................GlyGluValLysTyrThrHisIleAlaGlyAr 461
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1870 TATGACCACATCAGTTTTGGTGAAGTATTGTATAATGATAACAAAGGCAA 1919

 461 gAspLeuPheLysTyrThrValLysProArgAspThrAspProAspThrP 478
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1920 CCCAACACGCAGTTATTTTGTGCAAGGCGGTCAAGCGGATGTCAGTACTC 1969

 478 heLeuLys.....................................His 481
       |||                                       :::
1970 AGCTGCCCAGTGCAGGTAAATTCACCTATAATGGTCTTTGGGCAGGCTAC 2019

 482 IleLysLysValIleGluLysGlyTyrArgGluLysGlyGlnAlaIleGl 498
     :::   :::      :::|||||||||   :::      ::::::|||::
2020 CTGACCCAGAAAAAAGACAAAGGTTATAGCAAAGATGAGGATACCATCAA 2069

 498 uTyrSerGlyLeuThrGluThrGlnLeuArgAlaAlaThrGlnLeuAlaI 515
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     2070 GCAAAAAGGTCTTAAAGAT............................. 2088

      515 leTyrTyrPheThr..................................... 519
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      520 AspSerAlaGluLeuAspLysAspLysLeuLysAsp...TyrHisGlyPh 535
          ||||||         :::   |||:::      |||      ||||||
     2137 GATAGTTTGACCGCATCTGATGATTCACAAGATGATAATACACATGGCGA 2186

      535 eGlyAspMetAsnAspSerThrLeuAlaValAlaLysIleLeuValGluT 552
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     2187 TGATGATTTG.........................ATTGCATCTGATG 2209

      552 yrAlaGlnAspSerAsnProProGlnLeuThrAspLeuAspPhePheIle 568
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     2210 ATTCACAAGATGATGACACAGATGGCGATGACGATTCAGATGATTTG... 2256

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          :::::::::      ::::::      |||      :::|||
     2257 ...GGTGATGGTGCAGATGATGACGCCGCAGGCAAAGTGTATCATGCAGG 2303

      585 uAspLeuValAspIleIleArgMetGluAspLysLysGluValIleProV 602
           :::            ||||||   |||   :::::::::   :::|||:
     2304 TAAT............ATTCGCCCTGAATTTGAAAACAAATACTTGCCCA 2341

      602 al.........ThrHisAsnLeuThrLeu..................... 608
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     2342 TTAATGAGCCTACTCATGAAAAAACCTTTGCCCTAGATGGTAAAAATAAG 2391

      609 .........................ArgLysThrValThrGlyLeuAlaGl 617
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     2392 GCTAAGTTTGATGTAAACTTTGACACCAACAGCCTAACTGGTAAATTAAA 2441

      617 yAspArgThrLysAspPheHisPheGluIleGluLeuLysAsnAsnLysG 634
          :|||:::      |||:::   |||:::|||      ||||||:::|||
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            :::      :::   |||:::|||:::|||      |||   :::
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     2536 GAAGTGGGT............AACAACCAAGGTGGC.............. 2559

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     2560 ................GGTTTCTTATACAACATCAAAGATATTGATGTTA 2593

      684 luGlyTyrLysValLysValAsnSerGlnGluValAla 696
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seq_name: /cgn1_7/ptodata/1/ina/5B_COMB.seq:US-08-714-402-1

seq_documentation_block:
; Sequence 1, Application US/08714402
; Patent No. 5910441
;  GENERAL INFORMATION:
;    APPLICANT:  ROCHA, Claudia
;    APPLICANT:  FISCHETTI, Vincent A.
;    TITLE OF INVENTION:  FIBRONECTIN AND FIBRINOGEN BINDING
;    TITLE OF INVENTION:  PROTEIN FROM GROUP A STREPTOCOCCI
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BURNS, DOANE, SWECKER & MATHIS
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
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;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/714,402
;      FILING DATE:  16-SEP-1996
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McGowan, Malcolm K.
;      REGISTRATION NUMBER:  39,300
;      REFERENCE/DOCKET NUMBER:  016921-097
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  3531 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA (genomic)
US-08-714-402-1


alignment_scores:
            Quality:  150.00              Length:    962
              Ratio:  0.367                Gaps:     51
 Percent Similarity:  42.516   Percent Identity: 19.854

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      48 ysThrValPheGlyLeuValGluSerSerThrProAsnAlaIleAsnPro 64
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      75 rGluSerTyrValArgGlyHisProTyrTyr.................... 85
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      86 ..LysGln.....................................PheArg 89
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      90 ValAlaHisAspLeuArgValAsnLeuGluGlySerArgSerTyrGlnVa 106
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     984 TGCAGAATTGAGCTTATTCCTAGAGAATAAGGAAGTGTTGGAAAATACTA 1033

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     179 laIleArgValThrGlnGluAlaValTrpTyrTyrSerAspAsnAlaPro 195
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    1184 CC......GAAACGGGAGAATTTGTCTGGTATGTTTATGTCAATCCAAAC 1227

     196 IleSerAsn...ProAspGluSerPheLys..................... 204
            :::|||   |||      :::::::::
    1228 CGTACCAATATTCCTTATGCGACCATGAATTTATGGGGATTTGGAAGGGC 1277

     205 .ArgGluSerGluSerAsnLeuValSerThrSerGlnLeuSerLeuMetA 221
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    1278 TCGTTCAAATACAAGCGACTTAGAAAACGACGCTAATACAAGTAGTGCTG 1327

     221 rgGlnAlaLeuLysGlnLeuIleAspProAsnLeuAlaThrLysMetPro 237
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    1328 AGCTTGGAGAGATTCAGGTCTATGAAGTACCTGAAGGAGAAAAATTACCA 1377

     238 LysGlnValProAspAsp................................ 243
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    1378 TCAAGTTATGGGGTTGATGTTACAAAACTTACTTTAAGAACGGATATCAC 1427

     244 ..................PheGlnLeuSerIlePheGluSerGluAspL 254
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    1428 AGCAGGCCTAGGAAATGGTTTTCAAATGACCAAACGTCAGCGAATTGACT 1477

     254 ysGlyAspLys...TyrAsnLysGlyTyr..................... 262
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    1528 ACAGACCAATCTGGTAAGCCATTGGTTGTTCAATCCAATTTGGCAAGTTT 1577

     268 ....................................GlyGly....... 269
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     270 ...................LeuValProThrLysProProThrProGly 279
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    1678 AAAAGTGAATTT......ACTAAGCCCTCTATTACAGTAGCAAATCTAAA 1721

     296 gLysTyrAlaIleGlyAspTyrSerLysLeu.................L 307
         ::::   |||        ::::::|||:::                  |
    1722 ACGAGTGGCTCAGCTTCGCTTTAAGAAAATGTCAACTGACAATGTGCCAT 1771

     307 euGluGlyAlaThrLeuGlnLeuThrGlyAspAsnValAsnSerPheGln 323
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    1772 TGCCAGAAGCGGCTTTTGAGCTGCGTTCATCAAATGGTAATAGT...CAG 1818

     324 AlaArgValPheSerSerAsnAspIleGlyGlu......ArgIleGluLe 338
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1819 AAATTAGAAGCCAGTTCAAACACACAAGGAGAGGTTCACTTTAAGGACCT 1868

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1869 GACCTCGGGCACATATGACCTGTATGAAACAAAAGCGCCAAAAGGTTATC 1918

 355 er..................................................... 355
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1919 AGCAGGTGACAGAGAAATTGGCGACCGTTACTGTTGATACTACCAAACCT 1968

 356 IleAlaGluProIleThrPhe.....................LysValGl 365
           |||   :::|||:::                     ||||||||
1969 GCTGAGGAAATGGTCACTTGGGGAAGCCCACATTCGTCTGTAAAAGTAGA 2018

 365 uAlaGlyLysValTyrThrIleIleAspGlyLysGln...IleGluAsnP 381
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2019 AGCTAACAAAGAAGTCACGATTGTCAACCATAAAGAAACCCTTACGTTTT 2068

 381 roAsnLysGluIleValGluProTyrSerValGluAlaTyrAsnAspPhe 397
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2098 CCAGAT.................CAACGCCCAGCAAAGATTCAAGTGCA 2129

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2130 ACTGTTGCAAAATGGTCAA.............................. 2148

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2149 ..AAGATGCCTAACCAGATTCAAGAA............GTAACGAAGGAT 2184

 448 PheThrThrGlyGluValLysTyrThrHisIleAlaGlyArgAspLeuPh 464
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2185 .........AACGATTGGTCTTAT...CACTTC......AAAGACTTGCC 2216

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 481 isIleLysLysValIleGluLysGlyTyrArgGluLysGlyGlnAlaIle 497
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seq_documentation_block:
; Sequence 8, Application US/08447031A
; Patent No. 5851794
;  GENERAL INFORMATION:
;    APPLICANT:  GUSS, Bengt
;    APPLICANT:  HOOK, Magnus
;    APPLICANT:  JONSSON, Hans
;    APPLICANT:  LINDBERG, Martin
;    APPLICANT:  PATTI, Joseph
;    APPLICANT:  SIGNAS, Christer
;    APPLICANT:  SWITALSKI, Lech
;    TITLE OF INVENTION:  A COLLAGEN BINDING PROTEIN AS WELL AS
;    TITLE OF INVENTION:  ITS PREPARATION
;    NUMBER OF SEQUENCES:  8
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Burns, Doane, Swecker & Mathis
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
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;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.30
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/447,031A
;       FILING DATE:  22-MAY-1995
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/861,804
;       FILING DATE:  21-AUG-1992
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  WO PCT/SE91/00707
;       FILING DATE:  22-OCT-1991
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  SE 9003374-7
;       FILING DATE:  22-OCT-1990
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  McGowan, Malcolm K.
;       REGISTRATION NUMBER:  39,300
;       REFERENCE/DOCKET NUMBER:  012889-006
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (703) 836-6620
;       TELEFAX:  (703) 836-2021
;   INFORMATION FOR SEQ ID NO:  8:
;     SEQUENCE CHARACTERISTICS:
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;       TYPE:  nucleic acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  DNA (genomic)
;     FEATURE:
;       NAME/KEY:  CDS
;       LOCATION:  931..4485
US-08-447-031A-8


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3233 GGAAGTACGAA...TTTAAAGACTTACCGAAGTATGATGAAGGAAAGAAA 3279

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3280 ATA.....GAATATACAGTGACC..... 3297

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; Patent No. 5851794
;  GENERAL INFORMATION:
;    APPLICANT:  GUSS, Bengt
;    APPLICANT:  HOOK, Magnus
;    APPLICANT:  JONSSON, Hans
;    APPLICANT:  LINDBERG, Martin
;    APPLICANT:  PATTI, Joseph
;    APPLICANT:  SIGNAS, Christer
;    APPLICANT:  SWITALSKI, Lech
;    TITLE OF INVENTION:  A COLLAGEN BINDING PROTEIN AS WELL AS
;    TITLE OF INVENTION:  ITS PREPARATION
;    NUMBER OF SEQUENCES:  8
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Burns, Doane, Swecker & Mathis
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/447,031A
;      FILING DATE:  22-MAY-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/861,804
;      FILING DATE:  21-AUG-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  WO PCT/SE91/00707
;      FILING DATE:  22-OCT-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  SE 9003374-7
;      FILING DATE:  22-OCT-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McGowan, Malcolm K.
;      REGISTRATION NUMBER:  39,300
;      REFERENCE/DOCKET NUMBER:  012889-006
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  3827 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA (genomic)
US-08-447-031A-1
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    1815 AAAA..............GTCAGTGTGAATTTATTGGCTAACGGGGAGA 1849

     399 luPheSerValLeuThrThrGlnAsnTyrAlaLysPheTyrTyr...... 413
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    1850 AAGTAAAAACGTTAGACGTGACATCTGAAACAAACTGGAAGTACGAATTT 1899

     414 .........AlaLysAsnLysAsnGlySerSerGlnValValTyrCysPh 427
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     427 eAsnAlaAspLeuLysSerProProAspSerGluAspGlyGlyLysThrM 444
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    1947 GACCGAAGATCACGTAAAAGACTACACAACAGACATCAACGGTACGACAA 1996

     444 etThrProAspPheThrThrGlyGluValLysTyrThrHisIleAlaGly 460
         ::|||      :::|||   ||||||::::::   |||       :::
    1997 TAACGAACAAGTATACACCAGGAGAGACATCGGCAACAGTAACAAAAAAT 2046

     461 ArgAspLeuPheLysTyrThrValLysProArgAspThrAspProAspTh 477
            |||      :::          |||   |||:::      ::
    2047 TGGGATGACAATAATAACCAAGACGGAAAACGACCAACTGAAATCAAAGT 2096

     477 rPheLeuLysHisIleLysLysValIleGluLys.............. 488
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     489 ..............................GlyTyrArgGluLys 493
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    2147 AATCTAATAACTGGACACATACGTGGACAGGATTAGATGAAAAAGCAAAA 2196

     494 GlyGlnAlaIleGluTyrSerGlyLeuThrGluThrGlnLeuArgAlaAl 510
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 2297 AATATACGCCAGAAACAACATCAATTAGTGGTGAAAAAGTATGGGAC... 2343

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  549 uValGluTyrAlaGlnAspSerAsnProProGlnLeuThrAspLeuAspP 566
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 2392 ..TTATTGGCTGATGGAGAGAAAGTAAAAACGTTAGACGTGACATCTGAA 2439

  580 ThrGlnTrpHisProGluAspLeuValAspIleIleArgMetGluAspLy 596
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 2440 ACAAACTGGAAGTACGAA...TTTAAAGACTTACCGAAGTATGATGAAGG 2486

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  628 ..........GluLeuLysAsnAsnLysGlnGluLeuLeuSerGlnThrV 641
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 2601 AAAAAATTGGGATGACAATAATAACCAAGACGGAAAACGACCAACTGAAA 2650

  641 alLysThrAspLysThrAsnLeuGluPheLysAspGlyLysAlaThr... 656
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seq_name: /cgn1_7/ptodata/1/ina/5A_COMB.seq:US-08-703-947-1

seq_documentation_block:
; Sequence 1, Application US/08703947

; Patent No. 5788962
; GENERAL INFORMATION:
; APPLICANT: Wise, Kim S.
; APPLICANT: McIntosh, Mark A.
; TITLE OF INVENTION: DNA Sequences Coding for Mycoplasma
; TITLE OF INVENTION: Hyopneumoniae Surface Antigens,
; TITLE OF INVENTION: Corresponding Proteins and Use in
; TITLE OF INVENTION: Vaccines and Diagnostic Procedures
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Grace J. Fishel
; STREET: 929 Fee Fee Road, Suite 100
; CITY: St. Louis
; STATE: Missouri
; COUNTRY: USA
; ZIP: 63043
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 5.25 inch, 360 KB storage
; COMPUTER: Hewlett-Packard Vectra
; OPERATING SYSTEM: MS-DOS Version 3.3
; SOFTWARE: WordPerfect 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/703,947
; FILING DATE: 28-AUG-1996
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/373,957
; FILING DATE: January 17, 1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Fishel, Grace J.
; REGISTRATION NUMBER: 25864
; REFERENCE/DOCKET NUMBER: UVM 8141
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (314) 878-0440
; TELEFAX: (314) 275-7693
; TELEX:
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 2672 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: genomic DNA
; DESCRIPTION: region of 5.8 kb HindIII fragment from
; DESCRIPTION: genomic library
; HYPOTHETICAL: no
; ANTI-SENSE: no
; FRAGMENT TYPE:
; ORIGINAL SOURCE:
; ORGANISM: Mycoplasma hyopneumoniae
; STRAIN: J
; INDIVIDUAL ISOLATE:
; DEVELOPMENTAL STAGE:
; HAPLOTYPE:
; TISSUE TYPE:
; CELL TYPE: unicellular bacterium
; CELL LINE:
; ORGANELLE:
; IMMEDIATE SOURCE:
; LIBRARY: Genomic in Charon 4A, GEM12
; CLONE: MhpJ25, MhpJ35, MhpJG35, pZJ25, pZJ25.1, pZ125.14,
; CLONE: pZJG35.1, pZJG35.12, pZJG35.13, pZJG35.14
; POSITION IN GENOME:
; CHROMOSOME/SEGMENT: single chromosome
; MAP POSITION: unknown
; UNITS: unknown
; FEATURE:
; NAME/KEY: sequence encodes entire 627 amino acids of
; NAME/KEY: the structural gene for the surface lipoprotein
; NAME/KEY: P65 and includes 312 bp upstream and 479
; NAME/KEY: bp downstream of coding sequence
; LOCATION: coding sequence for P65 spans 1881 bp of
; LOCATION: described sequence (begins at nt 313 and

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;       LOCATION:  includes all sequence through nt 2193)
;       IDENTIFICATION METHOD:  by similarity to pattern of open reading
;       IDENTIFICATION METHOD:  frame; by experiment identifying protein products of
;       IDENTIFICATION METHOD:  sequence with immune serum to P65
;       OTHER INFORMATION:  immunogenic surface lipoprotein of no known
;       OTHER INFORMATION:  function; C-terminus exposed on external
;       OTHER INFORMATION:  surface of cell
;     PUBLICATION INFORMATION:
;       AUTHORS:  Mary F. Kim, Manijeh B. Heidari, Susan J.
;       AUTHORS:  Stull, Mark A. McIntosh, and Kim S. Wise
;       TITLE:  Identification and Mapping of an
;       TITLE:  Immunogenic Region of Mycoplasma
;       TITLE:  hyopneumoniae p65 Surface Lipoprotein
;       TITLE:  Expressed in Escherichia coli from a Cloned
;       TITLE:  Genomic Fragment
;       JOURNAL:  Infection and Immunity
;       VOLUME:  58
;       ISSUE:  8
;       PAGES:  2637-2643
;       DATE:  August 1990
;       DOCUMENT NUMBER:
;       FILING DATE:
;       PUBLICATION DATE:
;       RELEVANT RESIDUES IN SEQ ID NO:  From 1 to 2672
US-08-703-947-1


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              Ratio:  0.392                 Gaps:     43
 Percent Similarity:  45.690   Percent Identity: 20.690

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     354 TACACTAGCGCCTTTTTCGGTCTTCACCACTCTTATTTCAGCTGGTTGT. 402

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     445 CTAGGTGATTCACTAACAGCTGGATTTAATGAAGAAACA.......... 483

      83 oTyrTyrLysGlnPheArgValAlaHisAspLeuArgValAsnLeuGluG 100
            |||:::::::|||:::   :::   |||         |||||||:::|
     484 ....TACCGTGATTTTCAAGGTACTTTAGATAAAGATGGTAATTTAAGCG 529

     100 lySerArgSerTyrGlnValTyr...CysPheAsnLeuLysLysAlaPhe 115
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     530 GT...CAATCTTATCCTGCTTATTTTGCTTATTATCTACAAAAA...... 570

     116 ProLeuGlySerAspSerSerValLysLysTrpTyrLysLysHisAspGl 132
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     571 ...CTTAATAAGAATTCACTTGTT..............TCTTATGATAA 602

     132 yIleSer..................................... 134
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     603 TTTGGCAATTTCTGGGACAACAACAGAAAACTGACTTTACCTTCTTAATC 652

     135 ..ThrLysPheGluAspTyrAlaMetSer......ProArgIleThr... 147
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     653 CAACCAAATATCCAAATGGAAAAATGAGCGATAATCCGTTAGTTACAAAC 702

     148 ......GlyAspGluLeuAsnGlnLysLeuArgAlaValMetTyrAsnGl 162
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     162 yHisProGlnAsnAlaAsnGlyIleMetGluGlyLeuGluProLeuAsnA 179
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     179 laIleArgValThrGlnGluAlaValTrpTyrTyrSerAspAsnAlaPro 195
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     803 TTTTGACAATGTCAGTGGGAGCT.................AACGATCCT 834

     196 IleSerAsnProAspGluSerPheLysArgGluSerGluSerAsnLeuVa 212
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     835 TTTTTAGCAATTTTTAATGAATTTAAAAAATGAGCA.............. 870

     212 lSerThrSerGlnLeuSerLeuMetArgGlnAlaLeuLysGlnLeuIleA 229
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     871 .......AGTATAATAAAACCAAAATCAGAGGAAGCAAAAAAATTACTAG 913

     229 spProAsnLeuAlaThrLysMetProLysGlnValProAspAspPheGln 245
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     914 ATCCAAAT.........GAAAGAGCGAATTTCCTAGCAGAAAAAGGAATG 954

     246 LeuSerIlePheGluSerGluAspLysGlyAspLysTyrAsnLysGlyTy 262
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     955 CTTTTAAAGGCGGAAGTTAATAAAAAAATTGAGGAAATAAACACAAATCT 1004

     262 rGlnAsnLeu............................LeuSerGlyG 269
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     286 AsnGlnProGlnThrThrSerValLeuIleArgLysTyrAlaIleGlyAs 302
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    1087 .................TTTATTAAGATTTTAAAGTATCTTTTATATAC 1118

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     319 alAsnSerPheGlnAlaArgValPheSerSerAsn.............. 330
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    1166 TTAACAAAATTATTCGTGAAACCGCCATTAAAAATAAGGTAAATTATATT 1215

     331 AspIleGlyGluArgIleGluLeuSerAspGlyThrTyrThrLeuThrGl 347
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    1216 GATGTCTATGATAAAAGTATTTGAAATGATTCTGATAAAAATTTAATGGC 1265

     347 uLeuAsn..............SerProAlaGlyTyr...SerIleAlaG 358
            |||               |||      ||||||   :::|||||:
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     391 lGluAlaTyrAsnAspPheGluGluPheSerValLeuThrThrGlnAsnT 408
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 458 leAlaGlyArgAspLeuPheLysTyrThrValLysProArgAspThrAsp 474
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1441 ...........................................GAC 1443

 475 ProAspThrPheLeuLysHisIleLysLysValIleGluLysGlyTyrAr 491
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1444 CTAAGTGTTTTTGCAAAATCAAATAAAGAATTTCTTGAAAAA...TTAAA 1490

 491 gGluLysGlyGlnAlaIleGluTyrSerGlyLeuThrGluThrGlnLeuA 508
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1591 ..........GTTCGAGAAATTGTA.....................TCTT 1609

 558 roProGlnLeuThrAspLeuAspPhe......PheIleProAsnAsnAsn 572
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 573 LysTyrGlnSerLeuIleGlyThrGlnTrpHisProGluAsp........ 586
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 642 ysThr.................AspLysThrAsnLeuGluPheLysAsp 652
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 653 Gly.........LysAlaThrIleAsnLeuLysHisGlyGluSerLeuTh 666
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 666 rLeuGlnGlyLeuProGluGlyTyrSerTyr.................... 676
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2153 CAAATTCTTCTGAGCAATCAAGTACCGATTCTAAATCAAACTAATTTTTT 2202

 733 uAla.LeuIleValIleAlaGlyIleSerLeu 743
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2203 AATAACTTATAATTATAAAAAACCTAAACTTA 2234
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seq_documentation_block:
; Sequence 9, Application US/08480604A
; Patent No. 5736139
;  GENERAL INFORMATION:
;    APPLICANT:  KINK, JOHN A.
;    APPLICANT:  THALLEY, BRUCE S.
;    APPLICANT:  PADHYE, NISHA V.
;    APPLICANT:  FIRCA, JOSEPH R.
;    APPLICANT:  STAFFORD, DOUGLAS C.
;    TITLE OF INVENTION:  VACCINE AND ANTITOXIN FOR TREATMENT AND
;    TITLE OF INVENTION:  PREVENTION OF C. DIFFICILE DISEASE
;    NUMBER OF SEQUENCES:  32
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  MEDLEN & CARROLL, LLP
;      STREET:  220 MONTGOMERY STREET, SUITE 2200
;      CITY:  SAN FRANCISCO
;      STATE:  CALIFORNIA
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  94104
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/480,604A
;      FILING DATE:  07-JUN-1995
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/422,711
;      FILING DATE:  14-APR-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/405,496
;      FILING DATE:  16-MAR-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/329,154
;      FILING DATE:  25-OCT-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/161,907
;      FILING DATE:  02-DEC-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/985,321
;      FILING DATE:  04-DEC-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/429,791
;      FILING DATE:  31-OCT-1989
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  INGOLIA, DIANE E.
;      REGISTRATION NUMBER:  40,027
;      REFERENCE/DOCKET NUMBER:  OPHD-01763
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415) 705-8410
;      TELEFAX:  (415) 397-8338
;  INFORMATION FOR SEQ ID NO:  9:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7101 base pairs
;      TYPE:  nucleic acid
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;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  DNA (genomic)
;     FEATURE:
;       NAME/KEY:  CDS
;       LOCATION:  1..7098
US-08-480-604A-9


alignment_scores:
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alignment_block:
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     257 ............................LysTyrAsnLysGlyTyrGlnAs 264
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seq_documentation_block:
; Sequence 9, Application US/08405496A
; Patent No. 5919665
;  GENERAL INFORMATION:
;    APPLICANT:  WILLIAMS, JAMES A.
;    TITLE OF INVENTION:  VACCINE FOR CLOSTRIDIUM BOTULINUM
;    TITLE OF INVENTION:  NEUROTOXIN
;    NUMBER OF SEQUENCES:  30
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  MEDLEN & CARROLL, LLP
;      STREET:  220 MONTGOMERY STREET, SUITE 2200
;      CITY:  SAN FRANCISCO
;      STATE:  CALIFORNIA
;      COUNTRY:  USA
;      ZIP:  94104
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/405,496A
;      FILING DATE:  16-MAR-1995
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/329,154
;      FILING DATE:  25-OCT-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/161,907
;      FILING DATE:  02-DEC-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/985,321
;      FILING DATE:  04-DEC-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/429,791
;      FILING DATE:  31-OCT-1989
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  INGOLIA, DIANE E.
;      REGISTRATION NUMBER:  40,027
;      REFERENCE/DOCKET NUMBER:  OPHD-01308
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415) 705-8410
;      TELEFAX:  (415) 397-8338
;  INFORMATION FOR SEQ ID NO:  9:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7101 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA (genomic)
;    FEATURE:
;      NAME/KEY:  CDS
;      LOCATION:  1..7098
US-08-405-496A-9


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              Ratio:  0.434                 Gaps:     38
 Percent Similarity:  40.764   Percent Identity: 19.618

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; Sequence 7, Application US/08867941
; Patent No. 5977337
;  GENERAL INFORMATION:
;    APPLICANT:  Loosmore, Sheena M
;    APPLICANT:  Du, Run-Pan
;    APPLICANT:  Wang, Quijun
;    APPLICANT:  Yang, Yan-Ping
;    APPLICANT:  Klein, Michel H
;    TITLE OF INVENTION:  LACTOFERRIN RECEPTOR GENES OF MORAXELLA
;    NUMBER OF SEQUENCES:  67
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Sim & McBurney
;      STREET:  6th Floor, 330 University Avenue
;      CITY:  Toronto
;      STATE:  Ontario
;      COUNTRY:  Canada
;      ZIP:  M5G 1R7
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/867,941
;      FILING DATE:  03-JUN-1997
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Stewart, Michael I
;      REGISTRATION NUMBER:  24,973
;      REFERENCE/DOCKET NUMBER:  1038-681 MIS:jb
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (416) 595-1155
;      TELEFAX:  (416) 595-1163
;  INFORMATION FOR SEQ ID NO:  7:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  2682 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-08-867-941-7


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              Ratio:  0.408                 Gaps:     39
 Percent Similarity:  41.626   Percent Identity: 19.704

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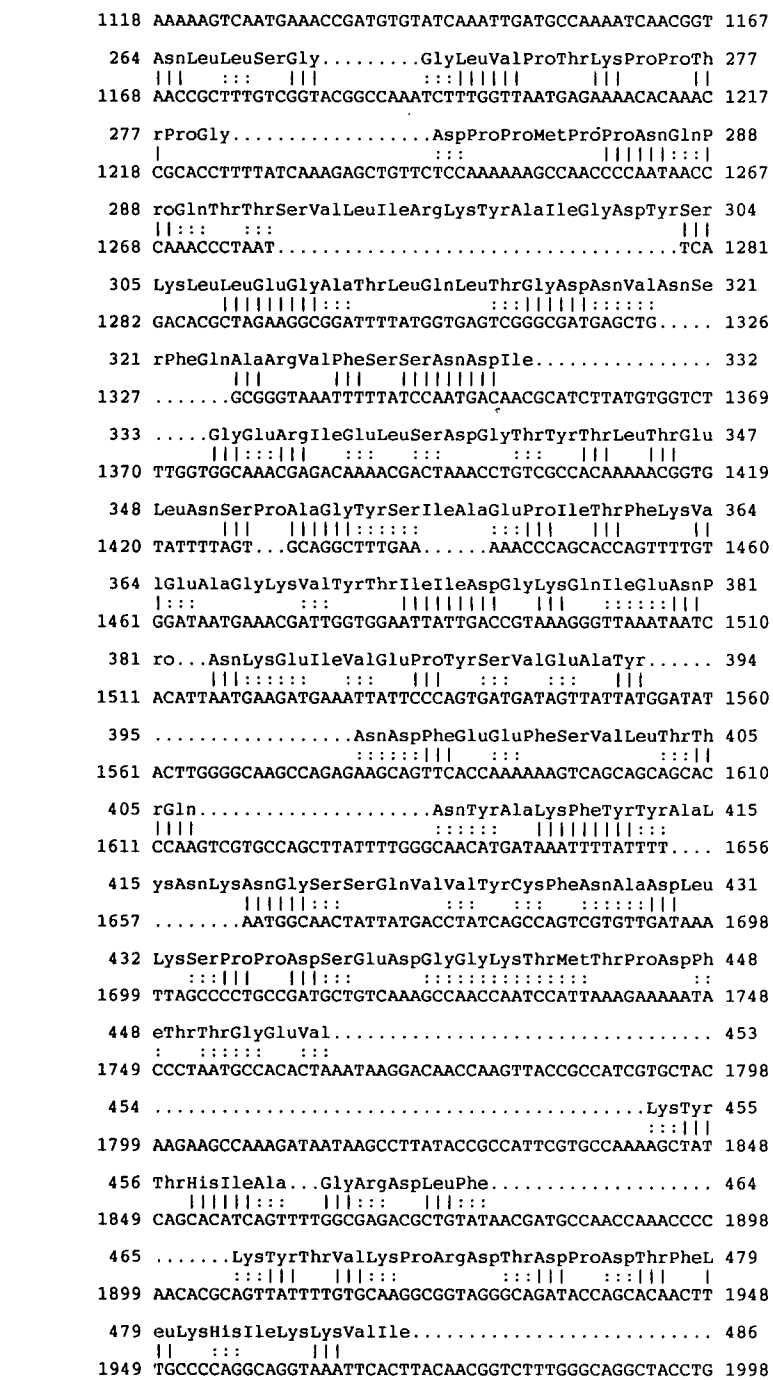

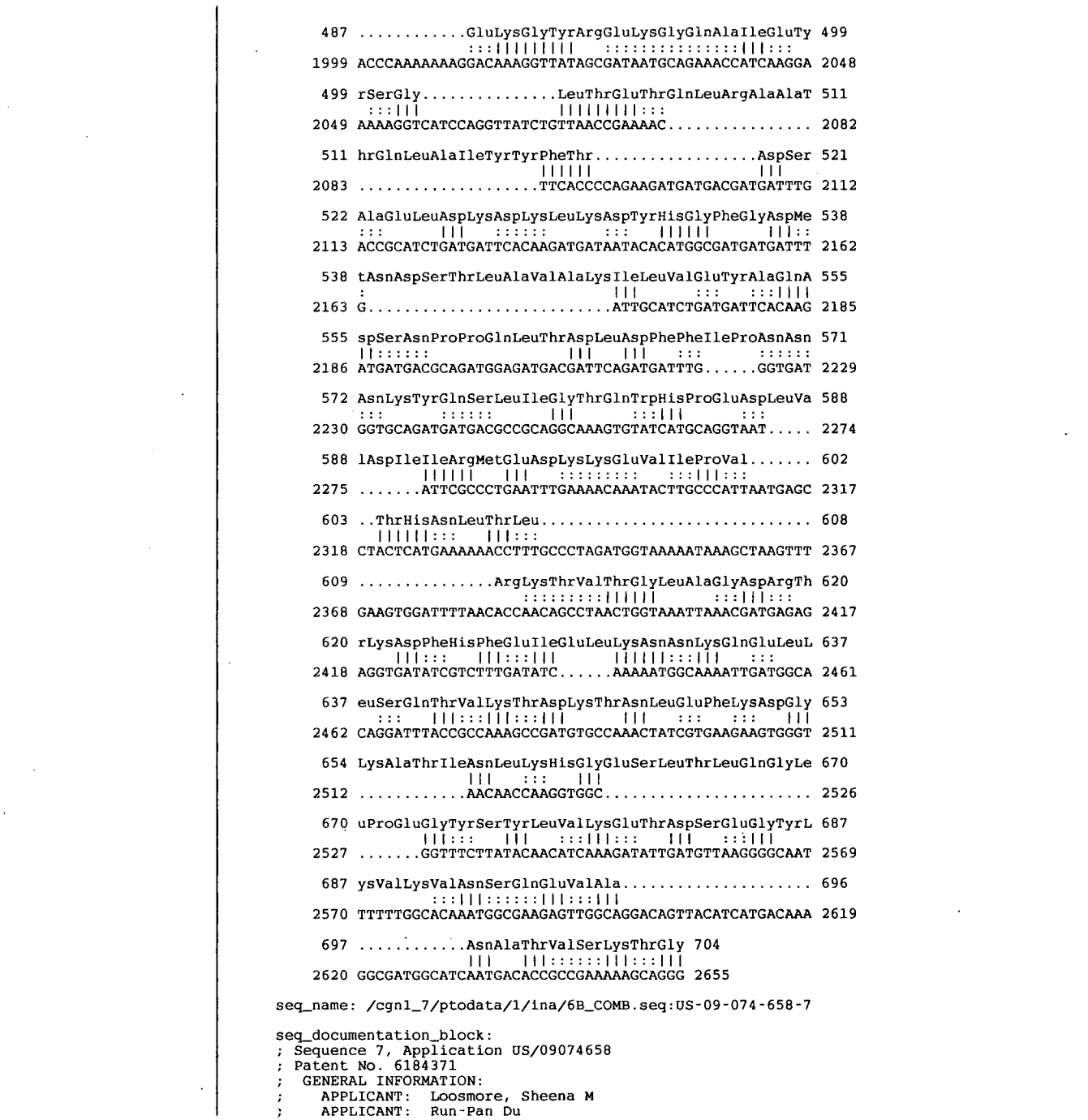

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seq_documentation_block:
; Sequence 7, Application US/09074658
; Patent No. 6184371
; GENERAL INFORMATION:
; APPLICANT: Loosmore, Sheena M
; APPLICANT: Run-Pan Du

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;    APPLICANT:  Quijun Wang
;    APPLICANT:  Yang, Yan-Ping
;    APPLICANT:  Klein, Michel H
;    TITLE OF INVENTION:  LACTOFERRIN RECEPTOR GENES OF MORAXELLA
;    NUMBER OF SEQUENCES:  78
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Sim & McBurney
;      STREET:  6th Floor, 330 University Avenue
;      CITY:  Toronto
;      STATE:  Ontario
;      COUNTRY:  Canada
;      ZIP:  M5G 1R7
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/074,658
;      FILING DATE:  08-MAY-1998
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Stewart, Michael I
;      REGISTRATION NUMBER:  24,973
;      REFERENCE/DOCKET NUMBER:  1038-795
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (416) 595-1155
;      TELEFAX:  (416) 595-1163
;  INFORMATION FOR SEQ ID NO:  7:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  2682 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-09-074-658-7


alignment_scores:
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              Ratio:  0.408               Gaps:     39
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alignment_block:
 US-09-494-297-2 x US-09-074-658-7   ..

 Align seg 1/1  to: US-09-074-658-7  from: 1  to: 2682

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; Sequence 6, Application US/08867941
; Patent No. 5977337
;  GENERAL INFORMATION:
;    APPLICANT:  Loosmore, Sheena M
;    APPLICANT:  Du, Run-Pan
;    APPLICANT:  Wang, Quijun
;    APPLICANT:  Yang, Yan-Ping
;    APPLICANT:  Klein, Michel H
;    TITLE OF INVENTION:  LACTOFERRIN RECEPTOR GENES OF MORAXELLA
;    NUMBER OF SEQUENCES:  67
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Sim & McBurney
;      STREET:  6th Floor, 330 University Avenue
;      CITY:  Toronto
;      STATE:  Ontario
;      COUNTRY:  Canada
;      ZIP:  M5G 1R7
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/867,941
;      FILING DATE:  03-JUN-1997
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Stewart, Michael I
;      REGISTRATION NUMBER:  24,973
;      REFERENCE/DOCKET NUMBER:  1038-681 MIS:jb
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (416) 595-1155
;      TELEFAX:  (416) 595-1163
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7641 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-08-867-941-6


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 Percent Similarity:  41.626   Percent Identity: 19.704
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; Patent No. 6184371
;  GENERAL INFORMATION:
;    APPLICANT:  Loosmore, Sheena M
;    APPLICANT:  Run-Pan Du
;    APPLICANT:  Quijun Wang
;    APPLICANT:  Yang, Yan-Ping
;    APPLICANT:  Klein, Michel H
;    TITLE OF INVENTION:  LACTOFERRIN RECEPTOR GENES OF MORAXELLA
;    NUMBER OF SEQUENCES:  78
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Sim & McBurney
;      STREET:  6th Floor, 330 University Avenue
;      CITY:  Toronto
;      STATE:  Ontario
;      COUNTRY:  Canada
;      ZIP:  M5G 1R7
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/074,658
;      FILING DATE:  08-MAY-1998
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Stewart, Michael I
;      REGISTRATION NUMBER:  24,973
;      REFERENCE/DOCKET NUMBER:  1038-795
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (416) 595-1155
;      TELEFAX:  (416) 595-1163
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  7641 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-09-074-658-6


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              Ratio:  0.408                 Gaps:     39
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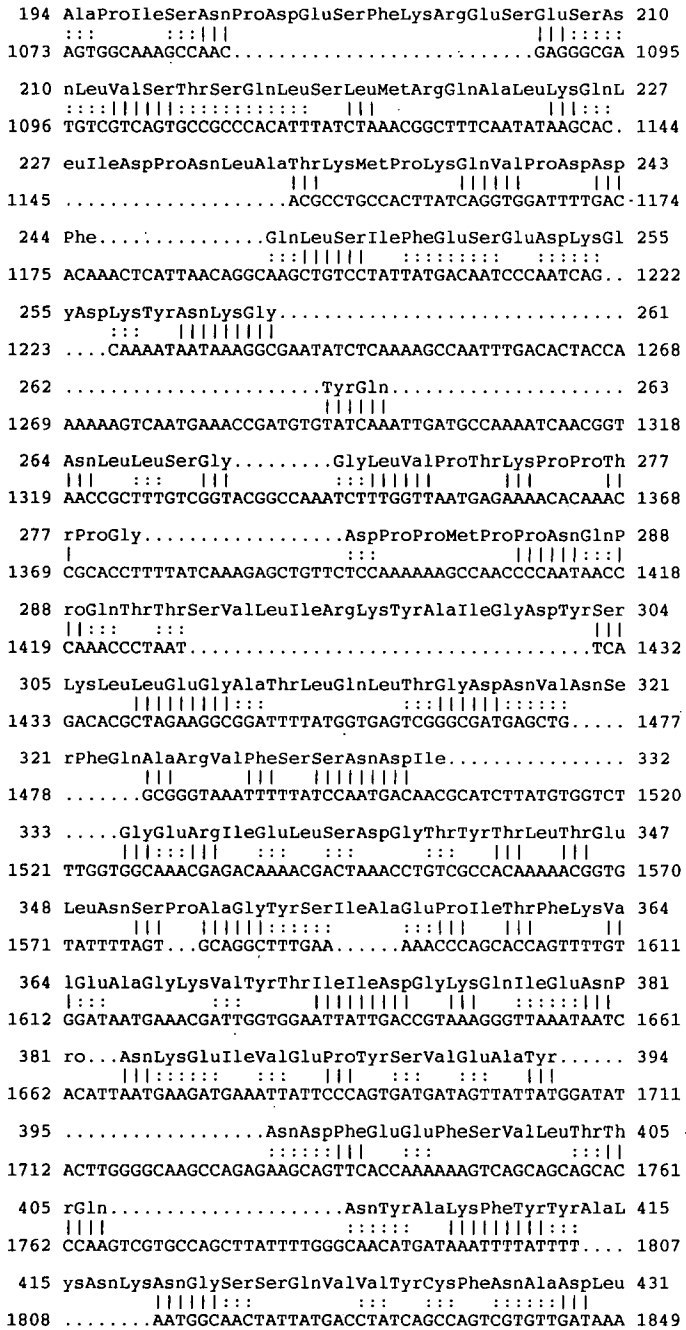
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1096 TGTCGTCAGTGCCGCCCACATTTATCTAAACGGCTTTCAATATAAGCAC. 1144
227 euIleAspProAsnLeuAlaThrLysMetProLysGlnValProAspAsp 243
1145 .....ACGCCTGCCACTTATCAGGTGGATTTTGAC 1174
244 Phe.....GlnLeuSerIlePheGluSerGluAspLysGl 255
1175 ACAAACTCATTAACAGGCAAGCTGTCCTATTATGACAATCCCAATCAG.. 1222
255 yAspLysTyrAsnLysGly..... 261
1223 ....CAAAATAATAAAGGCGAATATCTCAAAAGCCAATTTGACACTACCA 1268
262 .....TyrGln..... 263
1269 AAAAAGTCAATGAAACCGATGTGTATCAAATTGATGCCAAAATCAACGGT 1318
264 AsnLeuLeuSerGly.....GlyLeuValProThrLysProProTh 277
1319 AACCGCTTTGTCGGTACGGCCAAATCTTTGGTTAATGAGAAAACACAAAC 1368
277 rProGly.....AspProProMetProProAsnGlnP 288
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1419 CAAACCCTAAT.....TCA 1432
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1433 GACACGCTAGAAGGCGGATTTTATGGTGAGTCGGGCGATGAGCTG..... 1477
321 rPheGlnAlaArgValPheSerSerAsnAspIle..... 332
1478 .....GCGGGTAAATTTTTATCCAATGACAACGCATCTTATGTGGTCT 1520
333 .....GlyGluArgIleGluLeuSerAspGlyThrTyrThrLeuThrGlu 347
1521 TTGGTGGCAAACGAGACAAAACGACTAAACCTGTCGCCACAAAAACGGTG 1570
348 LeuAsnSerProAlaGlyTyrSerIleAlaGluProIleThrPheLysVa 364
1571 TATTTTAGT...GCAGGCTTTGAA.....AAACCCAGCACCAGTTTTGT 1611
364 lGluAlaGlyLysValTyrThrIleIleAspGlyLysGlnIleGluAsnP 381
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395 .....AsnAspPheGluGluPheSerValLeuThrTh 405
1712 ACTTGGGGCAAGCCAGAGAAGCAGTTCACCAAAAAAGTCAGCAGCAGCAC 1761
405 rGln.....AsnTyrAlaLysPheTyrTyrAlaL 415
1762 CCAAGTCGTGCCAGCTTATTTTGGGCAACATGATAAATTTTATTTT.... 1807
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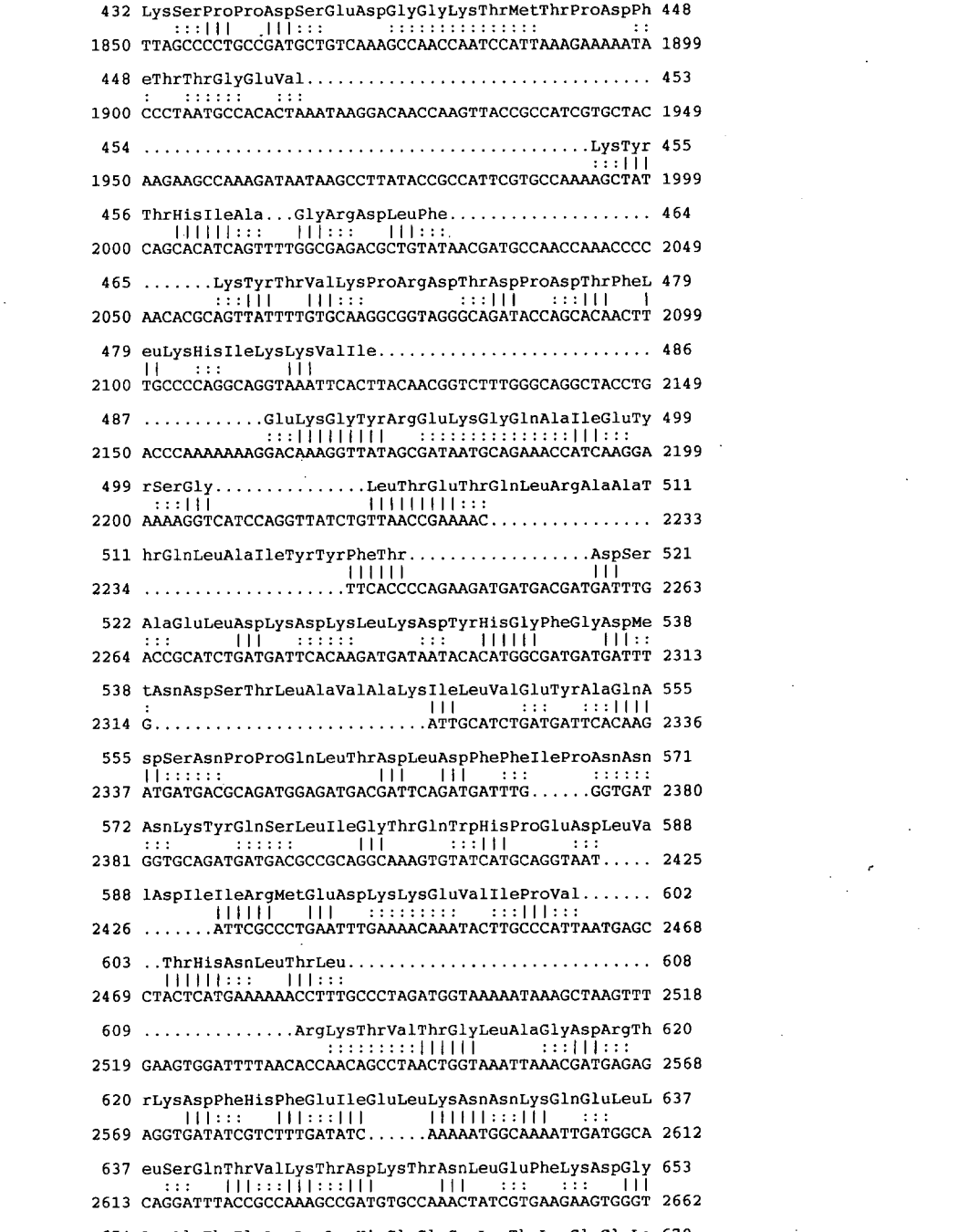
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1900 CCCTAATGCCACACTAAATAAGGACAACCAAGTTACCGCCATCGTGCTAC 1949
454 .....LysTyr 455
1950 AAGAAGCCAAAGATAATAAGCCTTATACCGCCATTCGTGCCAAAAGCTAT 1999
456 ThrHisIleAla...GlyArgAspLeuPhe..... 464
2000 CAGCACATCAGTTTTGGCGAGACGCTGTATAACGATGCCAACCAAACCCC 2049
465 .....LysTyrThrValLysProArgAspThrAspProAspThrPheL 479
2050 AACACGCAGTTATTTTGTGCAAGGCGGTAGGGCAGATACCAGCACAACTT 2099
479 euLysHisIleLysLysValIle..... 486
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487 .....GluLysGlyTyrArgGluLysGlyGlnAlaIleGluTy 499
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499 rSerGly.....LeuThrGluThrGlnLeuArgAlaAlaT 511
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511 hrGlnLeuAlaIleTyrTyrPheThr.....AspSer 521
2234 .....TTCACCCCAGAAGATGATGACGATGATTTG 2263
522 AlaGluLeuAspLysAspLysLeuLysAspTyrHisGlyPheGlyAspMe 538
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2314 G.....ATTGCATCTGATGATTCACAAG 2336
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2426 .....ATTCGCCCTGAATTTGAAAACAAATACTTGCCCATTAATGAGC 2468
603 ..ThrHisAsnLeuThrLeu..... 608
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620 rLysAspPheHisPheGluIleGluLeuLysAsnAsnLysGlnGluLeuL 637
2569 AGGTGATATCGTCTTTGATATC.....AAAAATGGCAAAATTGATGGCA 2612
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654 LysAlaThrIleAsnLeuLysHisGlyGluSerLeuThrLeuGlnGlyLe 670

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2663 ............AACAACCAAGGTGGC..................... 2677

 670 uProGluGlyTyrSerTyrLeuValLysGluThrAspSerGluGlyTyrL 687
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2678 .......GGTTTCTTATACAACATCAAAGATATTGATGTTAAGGGGCAAT 2720

 687 ysValLysValAsnSerGlnGluValAla..................... 696
           :::|||::::::|||:::|||
2721 TTTTTGGCACAAATGGCGAAGAGTTGGCAGGACAGTTACATCATGACAAA 2770

 697 ............AsnAlaThrValSerLysThrGly 704
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2771 GGCGATGGCATCAATGACACCGCCGAAAAAGCAGGG 2806
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